

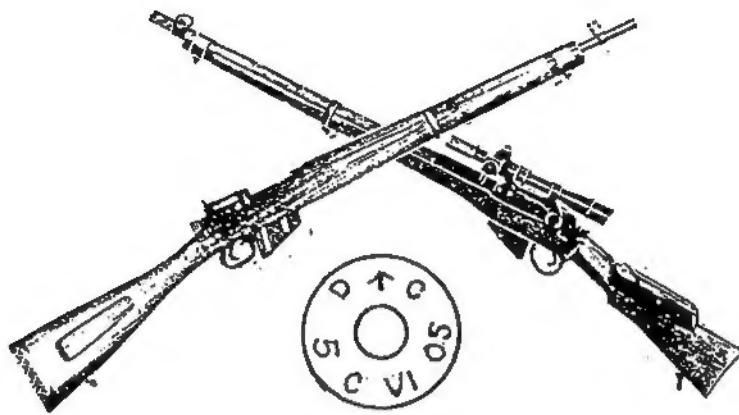
CANADA AND THE .303 - BRITISH

1892 — 1992

COMPILED - WRITTEN
AND
ILLUSTRATED
BY
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I have been a .303 British collector for some few years, and although there are several good publications on the .303 British generally, there seems to be a shortage of information on Canadian Manufactured Military Ammunition available. Over the years I have collected bits and pieces of information, and decided it might be a good time now to put all the bits and pieces together under one cover.

With the help of other .303 collectors, I have attempted to compile as much information that could be found. All the information contained in the booklet was taken from actual specimens, either in my own collection, or from the collections of others. Some specimens are no doubt one of a kind and not readily identifiable, especially ammunition produced during the World War II years 1940-1945, by Defence Industries Ltd. and Dominion Arsenals. These two facilities used ball headstamped cases for practically all their loading, and much experimentation was going on at both of these plants during these years. There was a separate set of rooms at these plants for research engineers, who would go out to the production lines and remove a number of cases in various stages of completion, and would then be used in their experimentation. One of the engineers who worked there at the time accumulated a number of these cases, and they are now in the collection of one of the booklet contributors. Probably no records were kept, or were destroyed if they were not to become issue, thus making them one of a kind.

The drawings are near scale, and the bullet staking crimps on the case necks indicate the method of crimping only, and not the actual size or the location. Generally speaking, the method of crimping from 1892-1940 used was by three short bullet stakes, and from 1940 on, three long bullet stakes. There were some ball rounds that had the case mouth coned into a cannellure on the bullet, rather than crimped. DAC 44 VII, and DAC 51 7Z are a couple of these examples.

Special thanks must go out to Jim Russell, Don Blyth and John Torrens of Canada, and my mate Peter Davis in Houston Texas for allowing me the access to their collections, and all the help they have given me in the researching and printing of this booklet.

HEADSTAMPS

Normally, Canadian Headstamps carry the following information:

1. The manufacturer.
2. Date of manufacture.
3. Type of loading.
4. Mark number.
5. Propellant.

This is not always true, especially on ammunition manufactured during World War II by Dominion Arsenals and Defence Industries. Starting in 1942, these two factories utilized ball headstamped cases for the Mark II and Mark IV tracer rounds, and you will have to check the bullet material, tip color, and method of crimping to ascertain which loading it is. This is also applicable on Grenade Launching Cartridges H Mark I produced in 1943 and 1944.

MANUFACTURERS HEADSTAMP CODES, SYMBOLS AND DATES

<u>CODE</u>	<u>FACTORY</u>	<u>DATES</u>
D f C	Dominion Cartridge Factory, Quebec.	1892-1900
D A	Dominion Arsenals, Quebec-renamed from above.	1900-1910
D A C	Dominion Arsenals, Quebec	1911-1958
D C A	Dominion Arsenals, Quebec	1935
D C	Dominion Ammunition Division, C.I.L.	1936-1938
D C C O	Dominion Cartridge Co.	1911-1927
D	Dominion Cartridge Co.	1922
L A C	Lindsay Arsenal, Lindsay, Ontario	1917
D A L	Dominion Arsenal, Lindsay, Ontario	1918-1921
D C	Defence Industries, Brownsberg and Verdun, Que.	1940-1941
D I	Defence Industries, Brownsberg and Verdun, Que.	1942-1945
R R	Ross Rifle Company, Quebec	1908-1917
Sc/c	General Engineering Co. Scarborough, Ontario	1942
I V I	Industrie Valcartier Incorporee	1982-1992

SYMBOLS

C	-	Cordite
Z	-	Nitro-cellulose powder
I	-	British broad arrow used to denote government property on early ball ammunition.
Ⓢ	-	Canadian broad arrow "C"-combination of broad arrow and "C". Appears alone, and in combination with factory code.

SYMBOLS cont.

B	-	Incendiary
G	-	Tracer
GP-B	-	Gallery Practice-Ball
H	-	Grenade Launcher
L	-	Blank
Q	-	Proof
S	-	Standard
U	-	INspectors Dummy
W	-	Armor-Piercing

DATES

Dates appear as-

- (A) Month and two digit year--5 10 = May 1910
- (B) Two digit year - "36" = 1936
- (C) Full year - 1942

MARKS

Mark appears as:

- (A) Roman numerals with letters of type code and powder code--
DC 1942 VII Z.
- (B) Arabic "7" or "8", with year and type code, DAC 50 7Z. Not all DIL
manufactured ammunition carries the Mark code- 1942 DI Z.

PRIMER ANNULUS COLOR

Purple	-	Ball
Red	-	Tracer
Green	-	Armor-Piercing
Clear	-	Pre-1919 Match
Blue	-	Incendiary

Some DIL Tracer ammunition can carry both a purple and a red primer annulus because of the use of ball headstamped cases for all loading.

BULLET TIP COLOR

Red	-	Tracer GII
White	-	Tracer GIV and GVI
Yellow	-	Standard
Blue	-	Incendiary

PRIMERS AND PRIMER CRIMPING.

Ammunition manufactured from 1892 until 1912 used an oval copper Berdan primer and were un-crimped. From 1912 until 1915 a semi-oval copper Berdan primer was used, and 1912 and 1913 had circular staked primers. From 1915 on the flat type copper Berdan primers were used. From 1914 to 1919 the primers were un-staked, and from 1920 on the use of staked primers became general.

BULLET CRIMPING

Most Ball and Armor-piercing rounds had the bullet secured into the case neck by either three short, medium or long bullet indents. Ball from 1951, Incendiary, Tracer, and IVI Mark 82 ammunition had the neck coned into a bullet cannelure.

BULLET JACKET MATERIAL

Cupro-nickle seems to be the predominant material used from 1892 - C.1942 on Ball and Tracer ammunition. Commencing in 1942 the use of Gilding Metal and Gilding metal coated steel was brought into use on Ball, Tracer, Incendiary and Armor-piercing ammunition.

ARMOR PIERCING

Armor-piercing ammunition was produced by Dominion Arsenals from 1941 until 1944, and closely followed the British W Mark I Pattern of 1941. The bullet weighed 174 grains and had a steel core set in a lead sheath and a Gilding metal coated steel jacket. The charge was 37½ grains of Cordite MDT 5/2, and the bullet was secured into the case neck with three long indents.

INCENDIARY

Incendiary ammunition was produced by Dominion Arsenals from 1942 until 1944, using both Cordite and Nitro-cellulose powders. The 166 grain bullet closely followed the British Pattern B VII of 1942.

RIFLE GRENADE BLANK.

Dominion Arsenals produced the H12 type Grenade blank in 1924, 1931, and 1938. Defence Industries produced the H12 in 1943 and 1944 and used Ball type headstamps (Fig.11). DI also loaded Ball rounds with Ballistite and sent them to General Engineering Company for the finishing process. These were loaded into 1941 DI cases, and were made in 1942 only. (Fig.12)

TRACER CANADIAN PATTERN

<u>MARK</u>	<u>DATE</u>	<u>BULLET JACKET</u>	<u>WEIGHT</u>	<u>TRACE</u>	<u>TIP COLOR</u>	
VII G	1924	CN	158 gr	White	Plain	Canadian Pattern
VII GI Z	1928	CN	158 gr	White	Plain	Canadian Pattern
G I Z	1929	CN	158 gr	White	Plain	Canadian Pattern
G I	1938-1942	CN	158 gr	White	Plain	Canadian Pattern

All the above GI types have the characteristic Canadian identification of a narrow black band around the case just above the rim.(Fig.14)

G II Z	1942	CN	158 gr	Red	Plain	Canadian Pattern
G II Z	1942	CN	158 gr	Red	Red	1st Pattern Standardized
G II Z	1942	GM	164 gr	Red	Red	2nd Pattern Standardized
G IV Z	1941	CN	158 gr	Red	White	Canadian Pattern
G IV Z	1941	CN	158 gr	Red	White	Standardized Pattern
G VI Z	1942	GM	158 gr	Red	White	Standardized Pattern

It should be mentioned here that Canadian Industries Limited invented the white tracer compound, and due to the immense pressure put on production, both Dominion Arsenals and Defence Industries used ball cases for everything. The Air battles over Britain early in the War, and later the 1000's of tanks used in North Africa put such a demand on these facilities that this action had to be taken. Ordinary Mark VII Ball cases (Fig.15) were used by Dominion Arsenals G II loadings as well as Defence Industries (Fig.16) for loading G IV and G VI ammunition. The tracer compound was adjusted for tanks at 1000 yard range, as opposed to 500 yards for aerial combat. The Government packing depots at Brownsberg, Quebec, settled the color markings for these rounds, but there is no public record as to what these markings were.

Another type of color coding was used by the R.C.A.F. for scoring hits by pilots on canvas targets pulled behind a "drone". Machine-gun belts were loaded 4 to 1 (four ball-one tracer) and the tips were then dipped into colored paint, and the color would indicate the number of hits scored by a pilot. The colors used were red, green, black and yellow. On ball ammunition it would show as a solid color, but on tracer it could show two distinct colors e.g. a Mark IV Tracer would show two colors—red over white etc. This could be confusing to the collector, as Yellow is also the color used to denote a Standards loading in both ball and Tracer.(Fig.33)

APPENDIX I.

Canadian Color Banded DCRA match- Post 1920

In 1921 the Dominion of Canada Rifle Association moved from the old Reckliffe ranges to the new Cannaught ranges. To commemorate this move the Dominion Arsenals were asked to supply ammunition with a good accuracy level for the annual rifle matches of that year. This was done, and to identify each round, the cases were ringed with a colored lacquer. This practice was then continued until the annual matches were suspended at the outbreak of World War II.

<u>YEAR</u>	<u>BANDS</u>	<u>COLOR</u>
1921	1	Rosanaline red
1922	1	Malachite green
1923	1	Gentian violet
1924	1	Victoria blue
1925	6	Rosanaline red
1926	6	Malachite green
1927	6	Gentian violet
1928	6	Victoria blue
1929	3	Rosanaline red
1930	3	Malachite green
1931	3	Gentian violet
1932	3	Victoria blue
1933	4	Rosanaline red
1934	4	Malachite green
1935	4	Gentian violet
1936	4	Victoria blue
1937	2	Rosanaline red
1938	2	Malachite green
1939	2	Gentian violet
1940	2	Victoria blue

In general, cartridges produced one year, were assigned for the match of the following year. When insufficient quantities were held from the previous year, current production was chosen to make up the amount required.

Thus you could expect to see a 1936 headstamp with 2 red bands for the 1937 match, but you could also find a 1937 headstamp for the same match.

In short, the band code is for the year of the DCRA match, and cartridge headstamps may vary.

CANADIAN COLOR BANDED MATCH-cont.

Cartridges headstamped 44 with one green band were made for the 1945 match. Also, 44 headstamps with one wide violet band were made for the late 1940's, the exact year unknown. 1945 cases were loaded with a nickle primer for the 1950 match.

Dominion Arsenals produced a Special Olympics Match round in 1948 using ball cases dated 1940-1943. These rounds were completely black to identify them. (Fig. 56).

pre 1920 MATCH AMMUNITION

Match ammunition of the 1908-1909 era were either all black or the front half of the case blackened. Some rounds dated C. 1913-1914 also have the front half of the case blackened. (Fig. 52). One packet dated 1914 is marked as Special Match, had the neck and shoulder only blackened. (Fig. 55)

The Ross Rifle Company produced special match rounds for the 1913-1914 Bisley matches. These rounds had a solid steel projectile of two lengths. (Fig. 53). There are probably more, as the Ross Company used a myriad of different headstamped cases for their loadings. The 1913-14 rounds however had the distinctive headstamp and profile as in Fig. 53.

There are several color banded rounds that do not correspond to the allotted years and some of them are as follows:



(A) I narrow blue band.



(B) I wide green band.



(C) I narrow green band.



(D) 6 narrow blue bands

APPENDIX II

GENERAL ENGINEERING COMPANY, SCARBOROUGH, ONTARIO (GECO)

This little known manufacturing plant was in operation during WW II from 1941 to 1945. While primarily a filling station for fuses and primers, this plant also produced Percussion Tube Mark IV (Fig. 26), Rifle Grenade HIZ (Canadian Pattern), Tracer G Mark II and G Mark IV. Production of the flame tracers was assigned to the GECO plant, and in 1943 produced some 10,251,735 pieces. The Mark IV was added in 1944, and during the two year period 1943/1944, some 112,163,467 tracer bullets were manufactured, and in 1945 some 5,165,353.

These bullets were shipped to different loading plants, and there was no indication on the loaded cartridges as to where the bullets were made. However the Percussion Tube Mark IV (Fig. 26) carries the ScC on it's base as does the 14 round tin they were packed in. These letters, plus c/c or C/C were the identification letters assigned to that company.

Of special interest is the .303 inch Ballistite Rifle Grenade H I Z (Canadian Pattern) that was loaded at that factory. Empty cases were shipped to the plant where they were loaded with cordite, and the mouth of the case was closed with a paper wad. The top half of the case was then lacquered black for identification. Although loaded with cordit, and loaded in 1942 only, headstamps on these cases indicate a 1941 date and a "Z" designation. (Fig. 12)

This plant also produced a multitude of special weaponry and munitions for the CAMP "X" spy school that was located nearby. This could possibly explain some of the un-known loadings of World War II covered in another section.

APPENDIX III.

INDUSTRIE VALCARTIER INCORPOREE.

This company was formed in 1967, and between 1967 and 1986, purchased Dominion Arsenals, Canadian Industries Ltd. and Canadian Arsenals. In 1986 IVI and Canadian Arsenals Ltd. became a holding company for the SNC Defence Products Limited.

In 1982 they were granted a government contract to produce .303 inch ammunition for the Northern Inuit Ranger Battalion. This is a native organization, specially selected and trained to do patrols etc. in the high arctic. Since they are quite self-sufficient, existing in their own element, they are a valuable asset to the various Government bureaus. These men were each issued a Lee-Enfield and 300 rounds of ammunition per year for their own use. The first run of ammunition was produced in 1982, and there after in 1985, 1987, 1989 and 1992. (Fig. 10)

CANADIAN MANUFACTURING PLANTS

DOMINION CARTRIDGE FACTORY-QUEBEC

Manufactured Ball Mark II, IV and V between 1892 and 1904. Blank Mark I Black Powder - coiled case in 1894, and Blank Black Powder Mark III.

DOMINION ARSENALS-QUEBEC (renamed from above)

Ball Mark II and VI, Ball Mark VII from 1912 until 1958, except for the years 1946, 1947 and 1948 due to a fire at the plant. Various marks of blank, drill, GP-B, proof, armor-piercing, match, incendiary, inspectors, tracer and grenade (HIZ).

DOMINION CARTRIDGE COMPANY LTD.-BROWNSBERG QUEBEC.

A small lot of Ball Mark VI in 1904, and Ball Mark VII in 1914, 1915 and 1916.

ROSS RIFLE COMPANY-QUEBEC

Match ammunition between 1908 and 1915. Limited production of Ball Mark VII in 1914, 1915 and 1916.

DOMINION ARSENAL, LINDSAY, ONTARIO

Ball Mark VII between 1917 and 1921.

DOMINION AMMUNITION DIVISION-CANADIAN INDUSTRIES LIMITED.

Located in Brownsberg, Quebec, this facility experimented with an improved Ball Mark VII in 1936, and produced Ball Mark VII in 1938 and 1939 in small lots only.

DEFENCE INDUSTRIES LTD.-BROWNSBERG, QUEBEC.

Manufactured Ball Mark VII between 1940 and 1945.

DEFENCE INDUSTRIES LTD.-VERDUN, QUEBEC.

Between 1941 and 1945, full production of Ball Mark VII, Ball Mark VIIIZ, Tracer Mark II and Mark IV, and Grenade launcher Mark HIZ. This company also produced an experimental run of 300,00 Ball Mark VIIIZ in 1942.

DOMINION CARTRIDGE COMPANY (Subsidiary of Canadian Explosives Ltd.)

1911-1927

In 1922 this company produced on contract, a small lot of Ball Mark VII for the Royal Canadian Mounted Police-headstamped D-1922 .303.

INDUSTRIE VALCARTIER INCORPORÉE

Ball Mark 8Z on contract in 1982, 1985, 1987, 1989 and 1992.

GALLERY PRACTICE-Ball

<u>MARK</u>	<u>CHARGE</u>	<u>BULLET WEIGHT</u>	<u>NECK CANNELURE</u>	<u>DATES USED</u>
I	9 gr Black Powder	90 grains	Yes	1902-1905 (Fig.34)
I	6 gr Smokeless	90 grains	No	1905-1906 (Fig.35)
II	5½ gr. Smokeless	125 grains	No	1906-1918 (Fig.36)

Prior to 1915, when the headstamp carried the designation "GP-B", all Canadian manufactured Gallery rounds utilized re-cycled ball cases. The Mark I Black Powder was nick-named "Gaudet", after Major Gaudet, a Canadian Officer, who designed the case in 1902. He submitted his design to the British authorities for testing, and although it received favorable reports from the test teams, it was not recommended for adoption. The barrels did foul up quickly, and to maintain a high level of accuracy, had to be cleaned after firing only fifty rounds. It was however a General issue item for the Canadian Military, and remained in service until about 1905, when it was replaced by the Mark I Smokeless round. Generally, the headstamps were ringed (cancelled), but many of these rounds were used as is. The early type BP-MK.I Black Powder loads also utilized surplus British cases and can be found with and without the cancel ring. (Fig.39). Royal Laboratories in Britain produced a small lot of BP Mark I C.1902, and since they are of the Canadian Pattern, it is impossible to ascertain if they were made by Royal Laboratories or Canadian makers.

The BP Mark I was replaced by the Mark I Smokeless in 1905, and could be recognized from the Mark I BP by the lack of neck cannellure. This round also used surplus cases as mentioned above, and had the headstamps cancelled also. This Mark was short lived, and was replaced by the Mark II Smokeless after less than one years use.

The Mark II Smokeless came into general use early in 1906, and it too used surplus ball cases prior to 1915, when the distinctly Canadian headstamp "GP-B" was adopted. As usual headstamps could be cancelled or left as is. Rumors exist that a 1918 GP-B round exists, but the only ones that I know of for sure are the 1915, 1916 and 1917 'GP-B' headstamped examples.

There was another round un-headstamped, Fig.38, that I found in a packet of Mark I BP loads dated 1902. I cannot ascertain for sure if this is a special case, or just a poor or broken bunter. I also have the same type un-headstamped sample in Ball Mark II, from a packet dated 1902, and a blank Mark II BP that came from a 1902 dated packet also, so there seems to be a few of them around.

INSPECTORS DUMMY

<u>MARK</u>	<u>CASE</u>	<u>PRIMER POCKET</u>	<u>FILLER</u>	<u>BULLET</u>
III	Tinned	2 hole berdan	30 gr lead wafer	CN-MK.VI (Fig.46)
IV	Tinned	Blind	30 gr coal dust	CN-MK.VII (Fig.47)
IV	Tinned	Anvil-2 holes	30 gr lead wafer	CN-MK.VII (Fig.48)
IV	Tinned	Anvil only	30 gr coal dust	CN-Mark VII
V	Chromed	2 hole berdan	wood distance piece	CN-MK.VII (Fig.49)
U LP	Tinned 4 holes	Anvil only	red wood distance piece	GM-MK.VII (Fig.50)

DRILL

<u>MARK</u>	<u>CASE</u>	<u>HOLES</u>	<u>PRIMER POCKET</u>	<u>WOOD PIECE</u>	<u>INDENTS</u>	<u>BULLET</u>
II	Tinned	No	Anvil-2 holes	Yes	No	Ety.MK.VI (Fig.40)
IV	Tinned	4	Anvil-2 holes	Yes	No	CN-MK.VII (Fig.41)
V	Tinned	4	Anvil-2 holes	Yes	3 red	CN-MK.VII (Fig.42)
Cdn Patt	Tinned	No	Anvil-2 holes	Yes	3 red	CN-MK.VII (Fig.43)
Type 2 Expedient	Brass	No	Anvil-2 holes	Yes	3 circles	Wood (Fig.44)

BLANK

<u>MARK</u>	<u>CASE</u>	<u>CASE CANNELURE</u>	<u>CRIMP</u>
I-Black Powder	Brass-foil	No	Flat nose-pie crimp (Fig.58)
III-Black Powder	Brass	No	Flat nose-pie crimp (Fig.57)
V-Cordite	Brass	No	6 Petal-rose crimp (Fig.59) (Cotton wad in mouth)
V-Cordite	Brass	Yes	Long crimp-OAL 2.20 (Fig.62)
L CDN MK I	Brass	Yes	5 petal-rose crimp (Fig.67)
L 5 Z	Brass	Yes	5 petal-rose crimp (Fig.68)

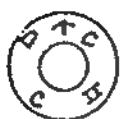


Fig. 1 Ball, Cordite, Mark II



Fig. 2 Ball Cordite, Mark IV



Fig. 3 Ball, Cordite, Mark V



Fig. 4 Ball, Cordite, Mark VI

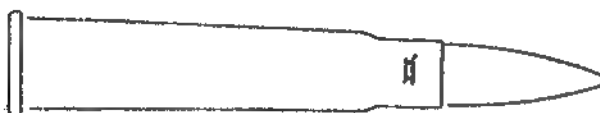


Fig. 5 Ball, Cordite, Mark 7



Fig. 6 Ball, Cordite, Mark VII



Fig. 7 Ball, Cordite, Mark 7



Fig. 8 Ball, Cordite, Mark 7Z



Fig. 9 Ball, NC, Mark VIIIZ



Fig. 10 Ball, Mark 8Z, NC



Fig.11 Rifle Grenade,H Mark I,Ballistite

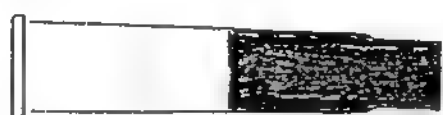


Fig.12 Rifle Grenade,H Mark I,Ballistite



Fig.13 Tracer,Mark VII G,Black Band



Fig.14 Tracer,Mark I,Black Band



Fig.15 Tracer,G Mark II,CM bullet-red tip



Fig.16 Tracer,G Mark IV,CN bullet-white tip



Fig.17 Tracer,G Mark II,NC,Plain bullet tip



Fig.18 Tracer,G Mark IV,NC,CN bullet-white tip



Fig.19 Armor-Piercing,W Mark I-GMCS



Fig.20 Proof, (Q Mark III ?)-Early pattern



Fig.21 Proof,Q IV



Fig.22 Proof (Q Mark III ?) Late Pattern



Fig.23 R.C.M.P. contract 1922

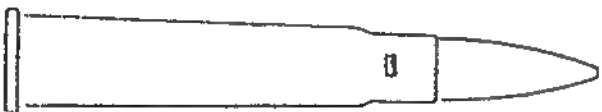


Fig.24 Ball,Mark VII for Lee-Metford



Fig.24A Ball,180 grain Match. C.1905



Fig.25 Ball,Mark VI C.1904



Fig.26 Percussion Tube,Mark IV



Fig.27 Percussion Tube,Mark V



Fig. 28 Incendiary, B Mark VII Z, NC, Blue tip



Fig. 29 Incendiary, B Mark VII, Cordite, Blue tip



Fig. 30 1917 Standard, circle "s" in headstamp



Fig. 31 1939 Standard, circle "s" in headstamp



Fig. 32 Ball Mark VII, packet over stamped "STANDARD"



Fig. 33 Tracer, GVI Standard-yellow tip



Fig. 34 Gallery-Practice, Mark I Black Powder



Fig. 35 Gallery-Practice, Mark I Smokeless



Fig. 36 Gallery-Practice, Mark II Smokeless



Fig. 37 Gallery-Practice, Mark II Smokeless-Dummy



Fig.38 Gallery-Practice,Mark I BP-no headstamp



Fig.39 Gallery-Practice,Mark II Smokeless-British cases



Fig.40 Drill,Mark II-Tinned case



Fig.41 Drill,Mark IV-tinned case



Fig.42 Drill MarkVI-Tinned case



Fig.43 Drill,Canadian Pattern 1942



Fig.44 Drill,Type II Expedient-wood bullet



Fig.45 Ball,Mark VII,1942 Contract



Fig.46 Inspectors U Mark III-lead wafer



Fig.47 Inspectors U MarkIV-coal dust filled



Fig.48 Inspectors U Mark IV-lead wafer



Fig.49 Inspectors U Mark V-chromed case



Fig.50 Inspectors U Local Pattern



Fig.51 Match-all black case



Fig.52 Match-half black case



Fig.53 1913 Match (Ross) all steel bullet



Fig.54 1938-DCRA color banded match



Fig.55 1914 Match-neck band only



Fig.56 Match-1948 Olympics



Fig.57 Blank,Black Powder,Mark III

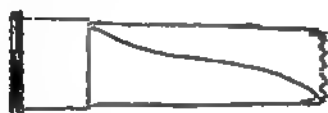


Fig.58 Blank,Black Powder,Mark I



Fig.59 Blank,Cordite,cotton wad in crimp



Fig.60 Blank,Mark V,Cordite, 1919-1923

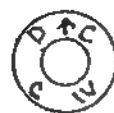


Fig.61 Blank,Black Powder,Mark III



Fig.62 Blank,5 petal crimp-unknown-O.A.L. 2.205"



Fig.63 Blank,Cordite,Mark V



Fig.64 Blank,Cordite,Mark V



Fig.65 Blank,Canadian Mark I-NC



Fig.66 Blank,Canadian Mark 5-NC



Fig.67 Blank,Canadian Mark V,NC



Fig.68 Blank,Canadian Mark 5 NC. Last production from DA-less tha 300 manufactured.

CHECKLIST CANADIAN MANUFACTURED TRACER AMMUNITION

G.MARK I



CN

Black Band



CN

Black Band



CN

Black Band



CN

Black Band



CN

Black Band



GM-red tip
Black Band



CN

Black Band



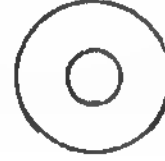
CN

Black Band



CN

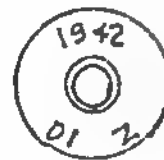
Black Band



G.MARK II



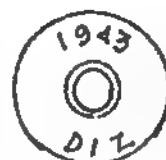
CN-white tip
CN-plain



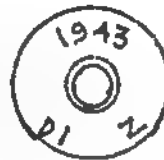
CN-red tip



GM-red tip



GM-red tip



GMCS-red tip



GM-red tip



GMCS-red tip



CN-red tip
CN-plain



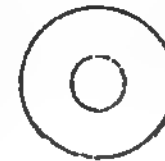
CN-red tip



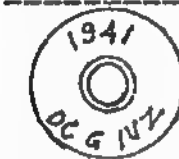
GM-red tip



CN-red tip



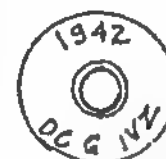
G.MARK IV



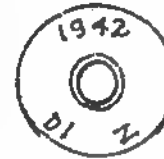
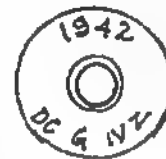
CN-white tip



CN-plain



CN-white tip CN-plain

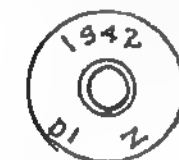


CN-white



GM-white
Standard

G.MARK VI



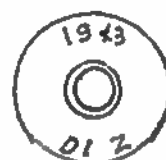
GM-white



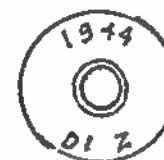
GM-yellow
Standard



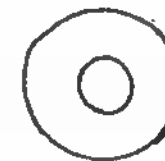
GM-white



GM-white



GM-white



APPENDIX IV

ROSS RIFLE COMPANY MATCH



(A) 1912 Match-steel bullet



(B) 1913 Match-steel bullet



(C) 1935 R.C.M.P. Contract-nitro-cellulose.

APPENDIX V

Early Defence Industries Headstamps.

Although headstamped with the Factory code "DC" for Dominion Cartridge Co. (fig 17, 18 and 32) this ammunition was in fact produced by Defence Industries Limited, who took over the D.C. plant and used the DC bunters for a short period.

INSPECTORS DUMMY U LP

DAC 40 U LP - tinned case - no holes - red primer pocket
DAC 40 U LP - tinned case - 4 holes - red primer pocket
DAC 40 U LP - tinned case - 4 holes - purple primer pocket
DAC 40 U LP - tinned case - no holes - plain primer pocket

MONTH AND YEAR DATED LOADINGS

			<u>BALL</u>	<u>D.MK.II</u>	<u>BLANK BP.MK.III</u>	<u>BLANK MK.V(C)</u>	<u>GP-B MK.II N/C</u>	<u>MATCH</u>
D I C	5 C VI	05	X	X				
	6	06	X	X				
	7	05	X					
	8	05	X					
	9	05	X		X			
	10	05	X				X	
	11	05	X	X			X	
	12	05	X	X			X	
D I C	1 C VI	06	X					
	2	06	X	X	X		X	
	3	06	X		X		X	
	4	06	X	X			X	
	5	06	X	X	X			
	6	06	X		X			
	7	06	X	X	X			
	8	06	X		X			
	9	06	X		X			
	10	06	X			X		
	11	06	X	X		X		
	12	06	X		X			
D I C	1 C VI	07	X		X			
	2	07	X		X			
	3	07	X		X			
	4	07	X		X			
	5	07	X		X			
	6	07	X		X			
	7	07	X					
	8	07	X					
	9	07	X					
	10	07	X					
	11	07	X					
	12	07	X					

"2" in D I C 2 C VI 07 is reversed.

MONTH AND YEAR DATED LOADINGS

				<u>BALL</u>	<u>D.MK.II</u>	<u>BLANK BP.MK.III</u>	<u>BLANK MK.V(C)</u>	<u>GP-B MK.II N/C</u>	<u>MATCH</u>
D I C	1	C VI	08	X					
	2		08	X					
	3		08	X					
	4		08	X		X			
	5		08	X					
	6		08	X					X
	7	VI	08	X		X			
	8	VI	08	X		X			
	8	C VI	08			X			
	9	VI	08	X		X			
	10	VI	08						
	11	VI	08	X					
	12	VI	08	X					
D I C	1	VI	09	X					
	2	VI	09	X					
	3	VI	09	X			X		
	4	VI	09	X					
	5	C VI	09	X	X				
	6		09	X			X		X
A	8	C VI	09	X					
	9		09						
	10		09	X					
	11		09	X					
	12		09	X					
A	1	C VI	10	X		X			
	2		10	X		X			
	3		10	X		X		X	
	4		10	X					
	5		10	X		X			

D I C 7 VI 08- has a crimped and uncrimped primer.

UNKNOWN & NO DESIGNATION



(A) Dummy, brass case, no primer.



(B) Dummy, brass case, no primer.



(C) Dummy, brass case, holed primer.



(D) Dummy, brass case, empty primer pocket.



(E) Dummy, Princess Mary's gift to the troops.



(F) Black base and head (Match ?)



(G) Tinned case, blind pocket, U Mark IV.



(H) Tinned case, blind pocket, U Mark IV.



(I) 1935 Dominion RCMP contract-nitro-cellulose.



(J) 1940 GI with PURPLE band.



(K) Black base and head.



(L) Red base, pale blue bullet tip.



(M) Wax wad over paper plug. Naval Line Throwing Blank.



(N) Inverted RG paper cup, no sealant.



(O) H 4 Grenade markings, but Canada never made one.



(P) H I Grenade type, no primer color, completely lacquered.



(Q) First reported HIZ date. No sample showed up.



(R) Unknown drill, WW I Expedient ?
Tinned case, four holes.

CHECKLIST OF MILITARY .303 AMMUNITION AND TYPES.

BALL MARK II

D I C C II-small print
D I C C II-medium print
D I C C II-large print

BALL MARK IV

D I C C IV-serif
D I C IV-plain

BALL MARK V

D I C C V-serif
D I C C V-plain

BALL MARK VI

See chart for month and year dates.

D I C C VI-serif
D I C C VI-plain
19 DAC 10 VI-large/serif
19 DAC 10 VI-large/plain
19 DAC 11 VI
19 DAC 12 VI
D.C.CO..303 L-M
D.C.CO..303 BRITISH

BALL MARK VII C

19 DAC 12 VII
19 DAC 13 VII
19 DAC 14 VII
19 DAC 15 VII
19 DAC 16 VII
19 DAC 17 VII
19 DAC 18 VII
19 DAC 19 VII
19 DAC 20 VII
19 DAC 21 VII
19 DAC 22 VII
19 DAC 23 VII
19 DAC 24 VII
19 DAC 25 VII
19 DAC 26 VII
19 DAC 27 VII
19 DAC 28 VII
19 DAC 29 VII
19 DAC 30 VII
19 DAC 31 VII
19 DAC 32 VII
19 DAC 33 VII
19 DAC 34 VII
DAC VII 1934
DAC VII 1935
DAC 1935 VII
DCA 35 VII
DCA VII 35
DAC 36 VII

DAC 1936 VII
DAC 37 VII
DAC 1937 VII
DAC 38 VII
DAC 1938 VII
DAC 39 VII
DAC 1939 VII
DAC 1940 VII
DAC 1941 VII
DAC 1942 VII
DAC 1943 VII
DAC 1944 VII
DAC 44 VII
DAC 44 7
DAC 45 VII
DAC 45 MK 7
DAC 45 MK.7-cancel ring
D.A.C. 45 MK.7
DAC 49 7
D.A.C. 50 7
DAC 52 7
DAC 53 7
DAC 54 7
DAC 55 7
DAC 56 7

DC 14 VII
DC 15 VII
DC 16 VII
D.C.CO..303 L-M
D.C.Co..303 BRITISH.
D-1922 .303

19 LAC 17 VII
C D.A.L. 18 VII
C D.A.L. 19 VII
C D.A.L. 20 VII
C D.A.L. 21 VII
R.R.Co.CAN. 14 VII
R.R.CO.15 VII
R.R.CO.16 VII

BALL MARK VII NC

DAC 50 7z
DAC 51 7z
D.A.C. 51 7z
DAC 56 7z-small
DAC 56 7z
DA 58 7z
DI 1942 VII 2
1942 DI 2
1943 DI 2
1944 DI 2

BALL MARK VII NC

1945 DI Z-open "4"

DC 40 303 VII

DC 41 303 VII^z

1941 DI VII Z

DI 41 303 VII Z

BALL MARK VIIIZ

1942 DIVIIIZ

BALL MARK 8Z

IVI 82 8z

IVI 85 8z

IVI 87 8z

IVI 89 8z

IVI 92 8z

BLANK BP MK I

Iron base-foil case

BLANK BP-III

See month, year date list.

D I C C II

D I C C IV

D I C C V

D I C C VI

19 DAC 10 VI

19 DAC 11 VI

19 DAC 12 VI

BLANK MARK V (C)

19 DAC 14 VII

19 DAC 15 VII

19 DAC 15 GP-B-cotton tuft

19 DAC 15 GP-B

19 DAC 16 GP B-cotton tuft

19 DAC 16 GP B-cotton tuft

19 DAC 17 GP-B-cotton tuft

19 DAC 16 VII-cotton tuft

19 DAC 17 VII-cotton tuft

19 DAC 18 VII-cotton tuft

19 DAC 19 VII

19 DAC 20 VII

19 DAC 21 VII

19 DAC 22 VII

19 DAC 23 VII

DAC 1940 VII

DAC 1941 VII

DAC 1942 VII

DAC 1942 B VII Z

DAC 1943 VII

DAC 1943 QIV

DAC 1943 B VII Z

DAC 1944 VII

DAC 1944 VII

DAC 1944 PROOF

DAC 44 VII

DAC 44 WI

1944 DI Z

DAC 1950 QIV

DAC 51 7z

DAC 51 7

DAC 54 7

DAC 54 7z

BLANK MARK V NC

DAC 52 L5Z

D.A. 55 L CDN.MK.I

D.A. 56 L CDN.MK.I-large

D.A. 56 L CDN.MK.I-small

DA 58 L5Z

GALLERY PRACTICE-BALL

MARK I-BLACK POWDER

D I C C II-small, medium, large

D I C C IV

D I C C V

D I C II C

DC 14 VII

DC 15 VII

MARK I-Smokeless

D I C C II

D I C C IV

D I C C V

D I C C VI

MARK II-Smokeless

D I C C II - small, medium, large

D I C C IV

D I C C V

D I C C VI

19 DAC 12 VII

19 DAC 13 VII

19 DAC 14 VII

19 DAC 15 VII

19 DAC 15 GP-B

19 DAC 16 VII

19 DAC 16 GP-B

19 DAC 16 GP B

19 DAC 17 VII

19 DAC 17 GP-B

See month and year date list

All GP-B rounds can have either a
cancel mark on base or left plain.

INSPECTORS U MARK III

19 DAC 16 VII

INSPECTORS DUMMY MARK IV

19 DAC 12 VII
19 DAC 13 VII
19 DAC 14 VII
19 DAC 15 VII
19 DAC 16 VII
19 DAC 17 VII
19 DAC 18 VII

INSPECTORS DUMMY MARK V

DAC 1942 GI
DAC 1942 VII
DAC 1943 VII
DAC 1943 Q IV
DAC 1943 WI

DRILL MARK II

See month and year date list.

D I C G VI
19 DAC 14 VII-MK.VI bullet
19 DAC 15 VII-MK.VI bullet
19 DAC 16 VII-MK.VI bullet

DRILL MARK IV

19 DAC 12 VII
19 DAC 13 VII
19 DAC 14 VII
19 DAC 15 VII
19 DAC 16 VII
19 DAC 16 PROOF
19 DAC 17 GP-B
19 DAC 17 VII
19 DAC 19 VII

DRILL MARK V

19 DAC 16 VII
19 DAC 17 VII
19 DAC 17 GP-B
19 DAC 18 VII
19 DAC 19 VII
19 DAC 20 VII
19 DAC 21 VII
19 DAC 22 VII
19 DAC 23 VII
19 DAC 29 VII

DRILL 1942 CANADIAN PATTERN

DAC 1942 GI
DAC 1942 VII
DAC 1943 VII
DAC 1943 QIV

ARMOR-PIERCING

DAC 1941 WI
DAC 1942 WI
DAC 1943 WI
DAC 44 WI

INCENDIARY

DAC 1942 B VII
DAC 1942 B VII Z
DAC 1943 B VII
DAC 1943 B VII Z
DAC 1944 B VII

PROOF

19 DAC 14 PROOF
19 DAC 15 PROOF
19 DAC 16 PROOF
DAC 1941 QIV
DAC 1942 QIV
DAC 1943 QIV
DAC 1944 PROOF
DAC 1950 QIV

STANDARD

19 DAC 17 VII ⑧
DAC 39 VII ⑥
DAC 1940 VII
DC 40 303 VII

DUMMY-BRASS CASE-NO DESIGNATION

R.R.Co. CAN. VII 14
R.R.CO.16 VII
1941 DI VII Z
1942 DI VIII Z
DC 40 303 VII

RIFLE GRENADE H MARK IZ

19 DAC 24 HIZ
19 DAC 31 HIZ
DAC 38 HIZ
DI 41 303 VII Z
1943 DI Z
1944 DI Z

INSPECTORS U LP

See Appendix V

TRACER

See check list

ADD ON:

STANDARD

1942 DIVIIIIZ-yellow tip
1943 DI Z -yellow tip-GVI

BALL

DC 36 VII
DC 37 VII
DC 37 303 VII
DC 38 VII

CHECKLIST SPECIAL PURPOSE AMMUNITION

ARMOR-PIERCING

DAC 1941 WI
DAC 1942 WI
DAC 1943 WI
DAC 44 WI

INCENDIARY

DAC 1942 B VII
DAC 1942 B VIIZ
DAC 1943 B VII
DAC 1943 B VIIZ
DAC 1944 B VII

PROOF

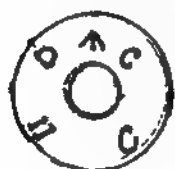
19 DAC 14 PROOF
19 DAC 15 PROOF
19 DAC 16 PROOF
DAC 1942 QIV
DAC 1943 QIV
DAC 1944 PROOF
DAC 1950 QIV

RIFLE GRENADE H I Z

19 DAC 24 HIZ
19 DAC 31 HIZ
DAC 38 HIZ
DI 41 303 VIIIZ
1943 DI Z
1944 DIZ

HEADSTAMP CHECKLIST
BALL, GP-B, STANDARD, PROOF, A/P, INCENDIARY, RG HIZ

DOMINION CARTRIDGE FACTORY-DOMINION ARSENALS



CN/RN



CN/RN



CN/RN



CN/RN



CN/RN/HP



CN/RN/HP



CN/RN/HP



CN/RN/HP



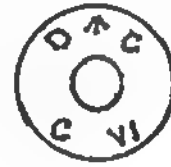
CN/RN



CN/RN



CN/RN



CN/RN



CN/RN



CN/RN



CN/RN



CN/RN



CN/RN



CN/RN



CN



CN



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CN



CN



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Lead



Lead



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Lead



Lead



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Lead



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½ black case



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CN



½ black case



CN



CN



CN



CN



CN



CN



GM



GM/CN



CN



GMCS



CN



CN



CN



GMCS



GMCS



GMCS



CN/GMCS



GMCS



GMCS



GMCS



CN



GMCS



GM



GMCS



GMCS



GMCS



CN



GMCS



GMCS



GMCS
nickle primer



GMCS



GM



GM



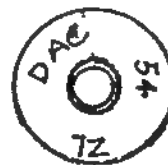
GM



GM



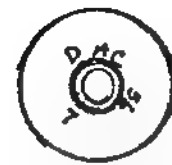
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GM



GM



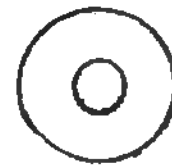
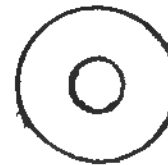
GM



GM



GM



DOMINION CARTRIDGE COMPANY



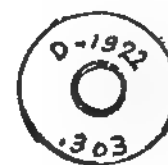
CN



CN



CN



CN



CN



CN



CN



CN



CN



CN/RN
CN MK.VII



CN



ROSS RIFLE COMPANY



CN



CN



CN



CN MK.VII



1.22" steel



1.41" steel

DOMINION ARSENALS, LINDSAY, ONTARIO.



CN



CN



CN



CN



CN



CN

DEFENCE INDUSTRIES LTD.



CN



CN



CN



CN



CN



CN



CN



GM



GM



CN/GM



CN



CN/GMCS



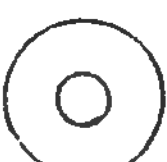
CN



CN/GMCS



CN/GMCS



INDUSTRIE VALCARTIER INCORPORÉE



GM



GM



GM



GM



GM



LATE, LATE ADDITIONS AND UNKNOWN.



Mark II Ball with 5 holes bored through. ?



200 grain Ross steel match bullet in D I C Mark II case.



19 DAC 16 VII with black primer and bottom 1/3 black. Match ?



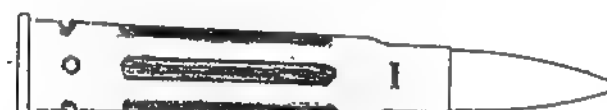
C D.A.L 18 VII with black primer and $\frac{1}{2}$ black case. Match ?



C D.A.L 19 VII with wax mouth closure. No primer seal.



19 DAC 12 VI-CN bullet-no primer seal. Packet over stamped MATCH.



DAC 1942 VII-1942 Pattern Canadian Drill with 4 small holes.



DAC 1943 VII-CN-primer pocket drilled-wood rod.



1943 DI Z-wide DI Z-GM Ball is scarce loading.



DAC 1943 VII-GM Bullet-red primer and $\frac{1}{2}$ red bullet.



1942 DI Z-GM-Barrel test-no bullet stabs.
Cellulose tape covering.



1944 DI Z-CN-Barrel test-3 short neck stabs. Also 1943 DI Z.
Cellulose tape covering.



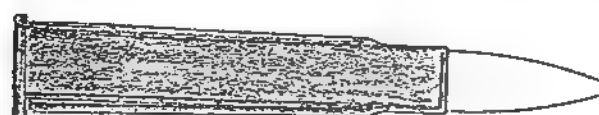
DAC 1943 WI-GMCS and $\frac{1}{2}$ black bullet.



DAC 1944 PROOF-entirely blackened blank except for primer (Copperized)



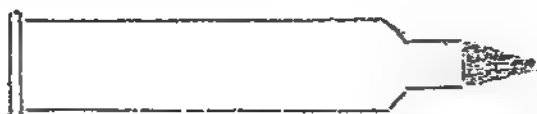
1944 DI Z-CN bullet-black tip-Exp'tl boat-tailed bullet.



D.A.C.45 MK.7 with brass primer-stained case.



IVI 92 8Z-copper case and bullet- PROOF.



22/303 with alloy bullet-4000 FPS Trials. (Meredith ?)

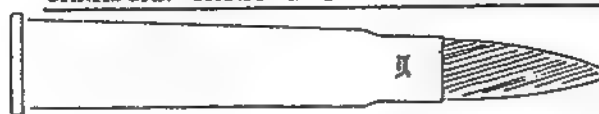


DAC 1940 VII-8mm hole through primer pocket-tiny hole in case.
Exp'tl High Pressure Test ?



Surplus Mark V bullets loaded into commercial cases. Tiny print.
Very rare style and size headstamp.

CANADIAN CASES BUT NOT CANADIAN LOADINGS.



DAC 1943 VII *-Dutch blank ?



1943 DI Z-yellow tip and case mouth.Tear gas pellet in bullet and
loaded by IMI Israel.



1942 DI Z-green mouth seal,and red lacquered primer. Chinese re-pack.

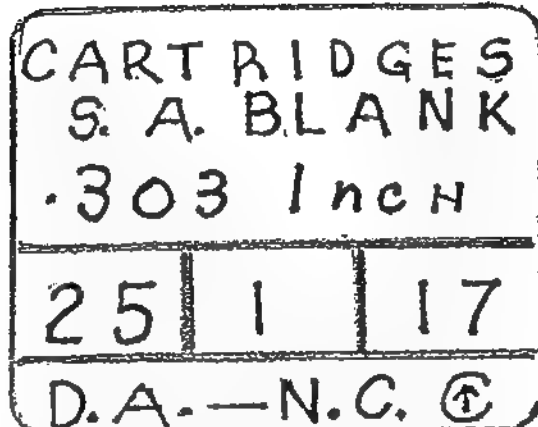


DAC 1942 VII-hit primer-sand filled Dutch Drill-2 shallow bands.



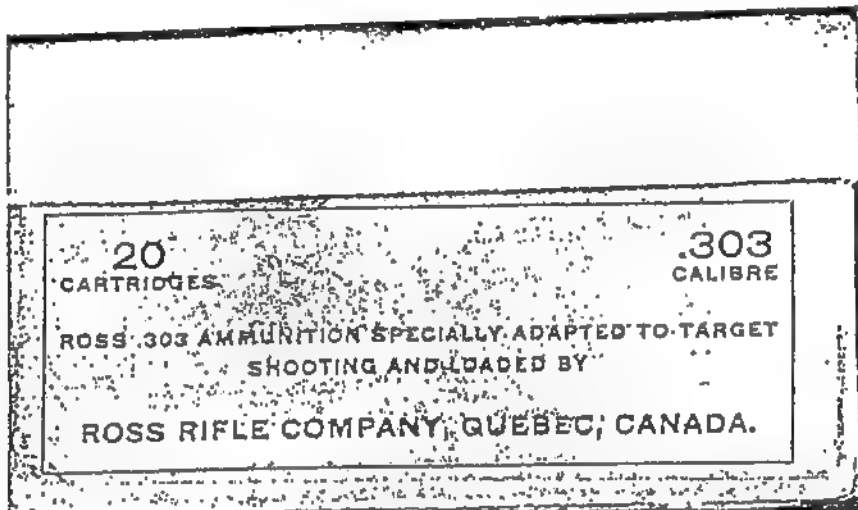
(A)

Scarse Lindsay Arsenal-1921-re-designated in 1926.



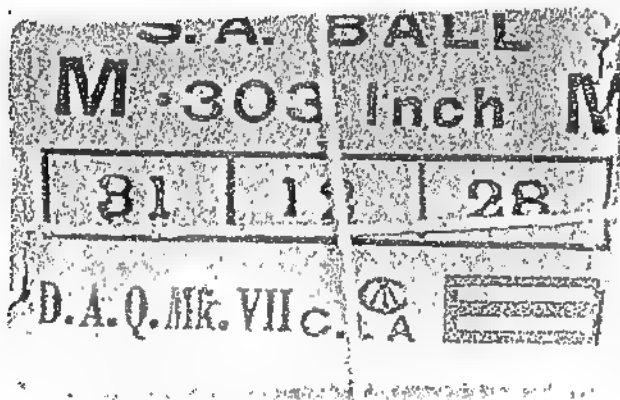
(B)

Unusual packet of 1917 blank loaded with nitro-cellulose powder.



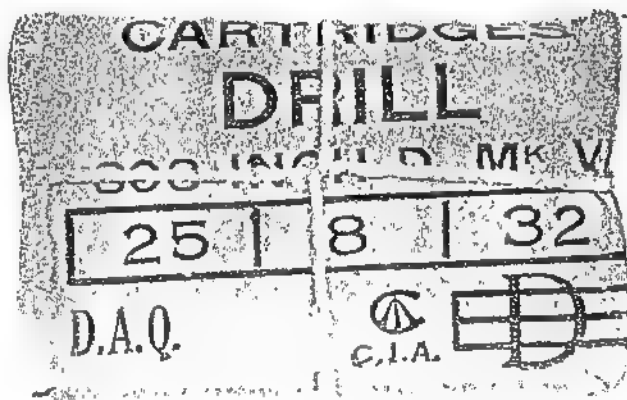
(C)

20 round box of Ross Steel Match -1913.



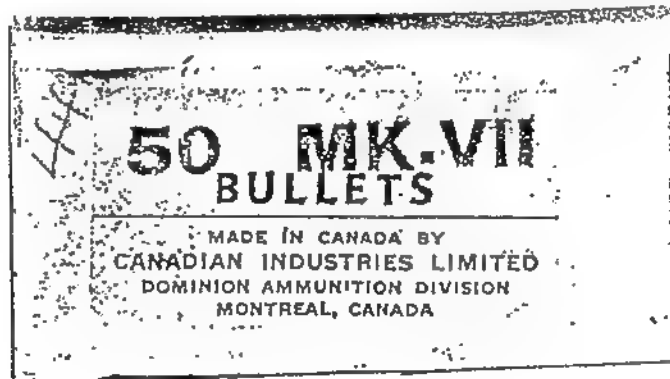
(D)

1928 Match packet. No color code on rounds.

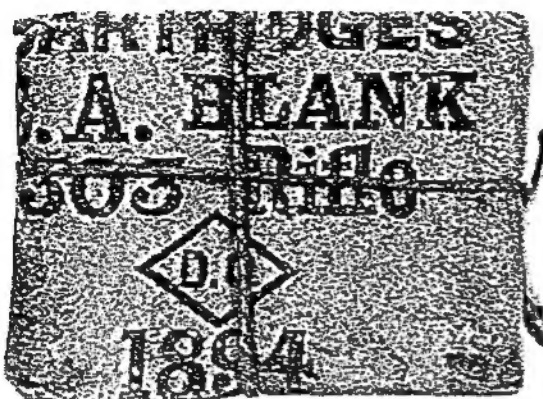


(E)

Mk. VI Drill packet dated 1932. rounds are dated from 1918-1923.

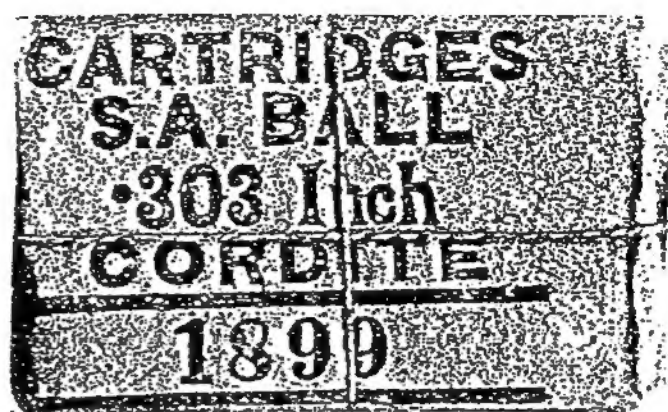


(F)



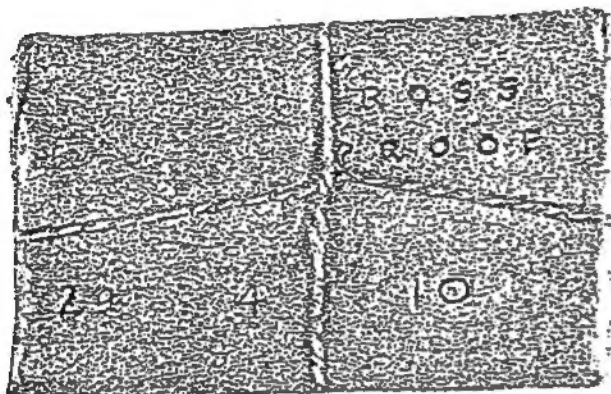
(A)

Blank MK.I-coiled case-black powder.



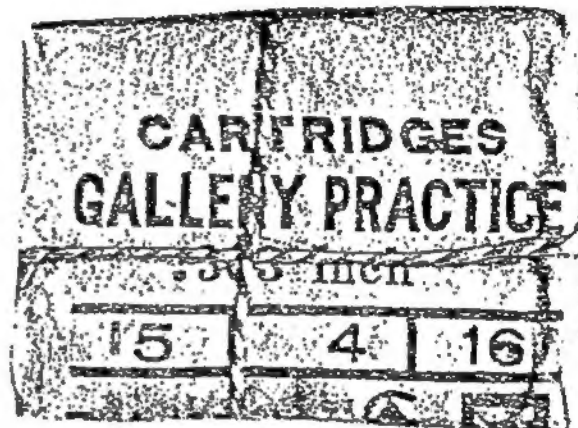
(B)

Ball Mark IV- D I C C IV



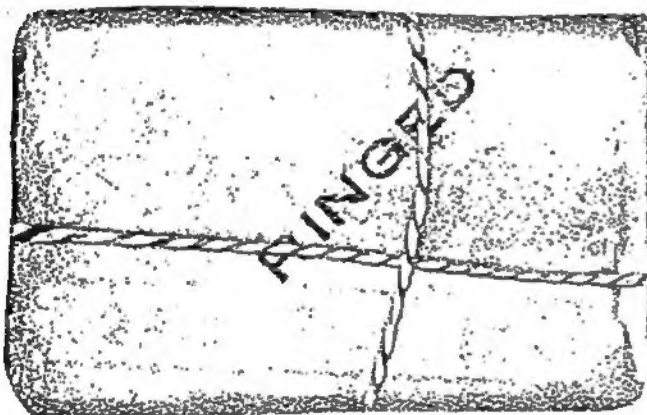
(C)

19 DAC 10 VI-dated 29/4/10-ROSS PROOF



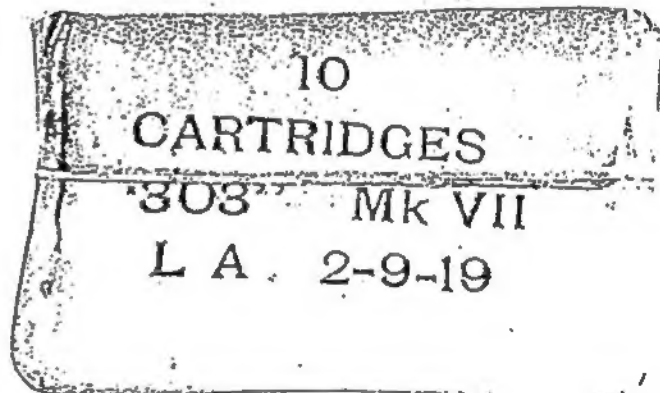
(D)

19 DAC 16 GP-B-Gallery Mk.II Smokeless.



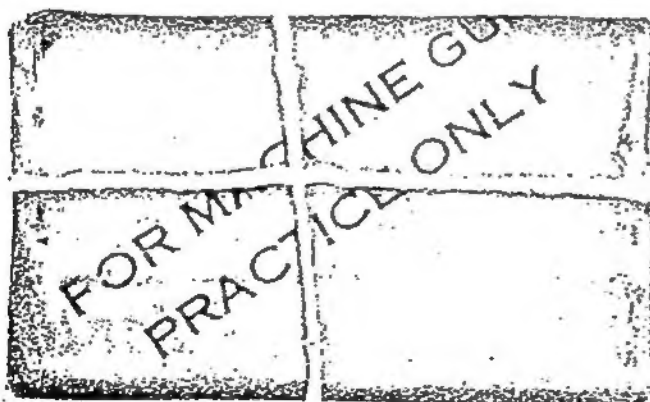
(E)

19 DAC 12 VI first primer crimp.



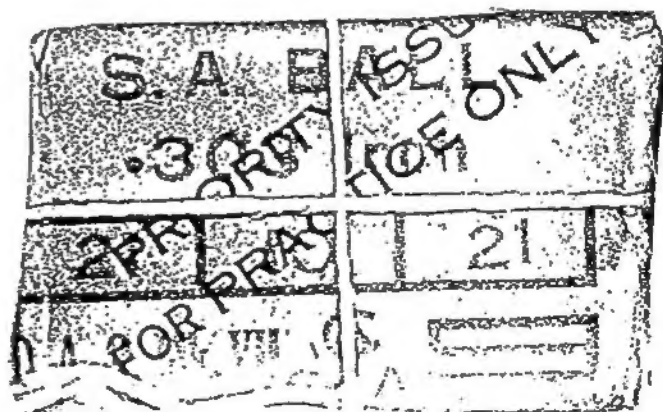
(F)

1919 Lindsay Arsenal Mark VII



(G)

19 DAC 10 VI-re-inspected 21/7/26.



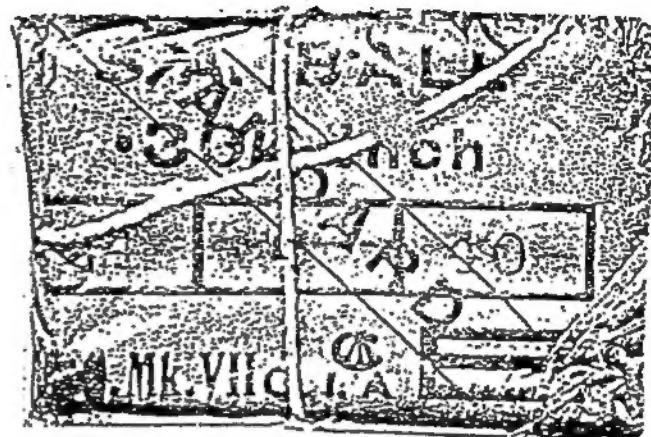
(H)

19 DAC 21 VII-re-designated in 1926



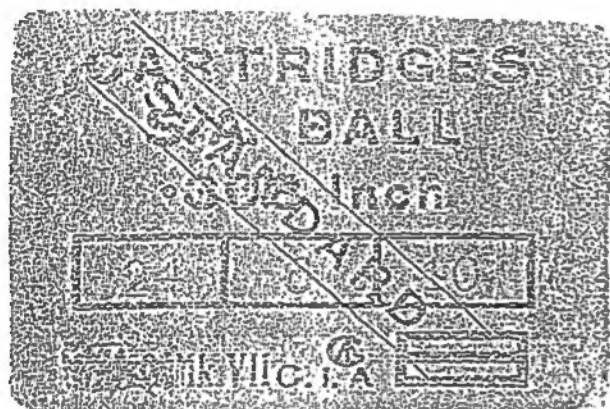
(A)

14 round tin H I Z manufactured by General Engineering Company. (GECO)



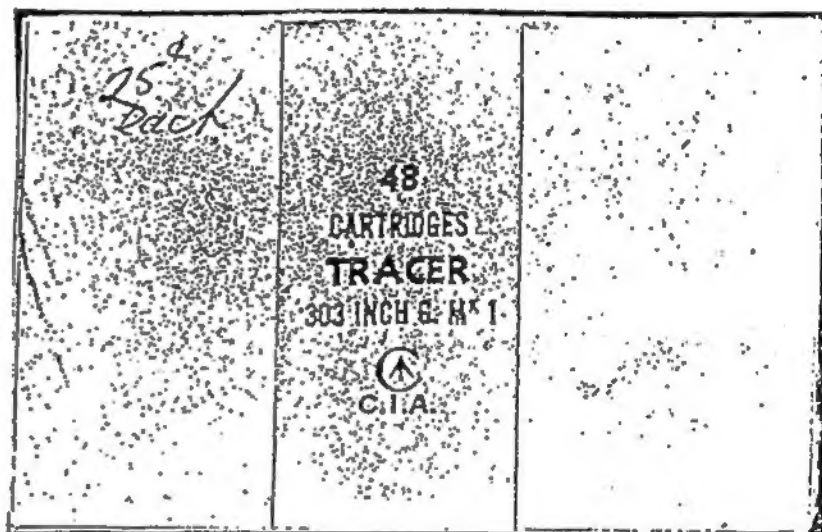
(B)

DC 40 303 VII-Standard-PPS



(C)

DAC 1940 VII-standard-PPS



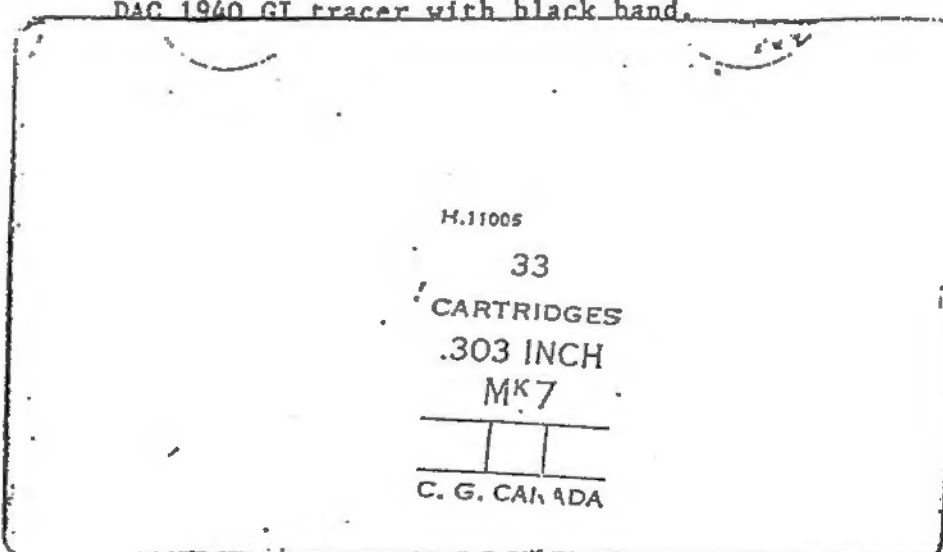
(D)

DAC 1940 GI tracer with black band.



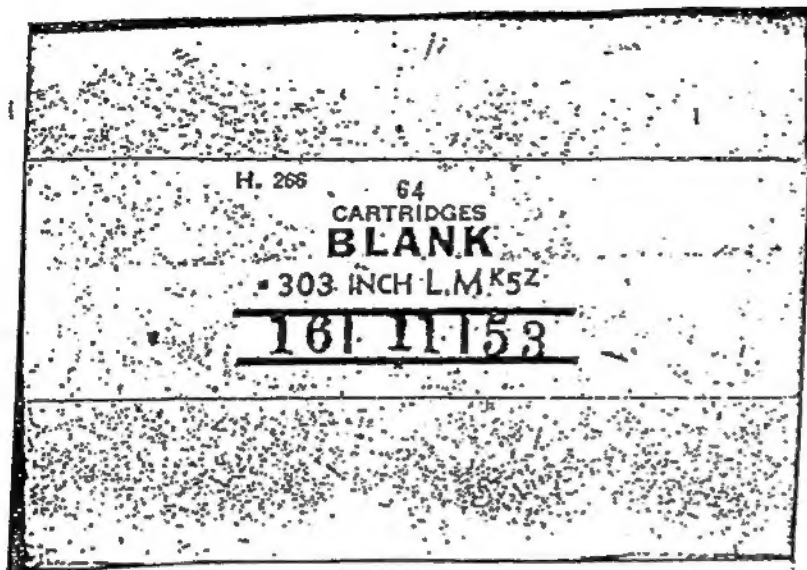
(E)

1942 DC G IV Z tracer.



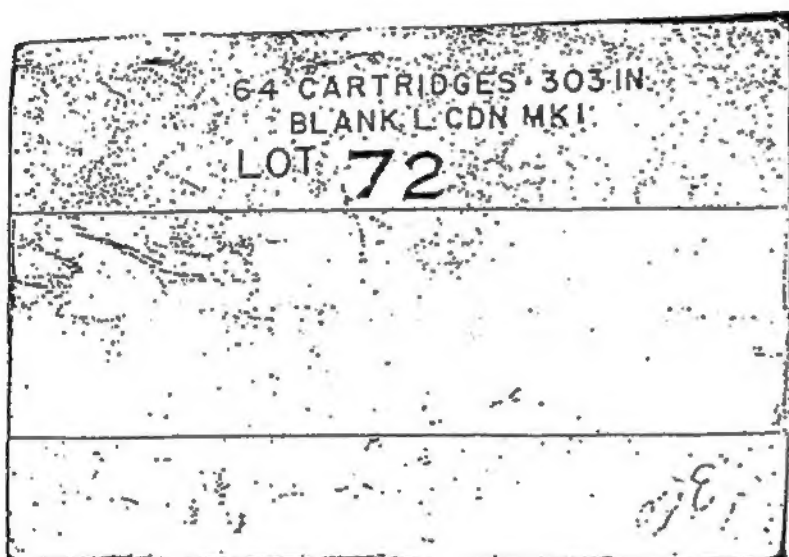
(F)

33 round box of 303 for Bren Gun-and for Export. "CANADA" on box label is in English, Chinese and Slavic.



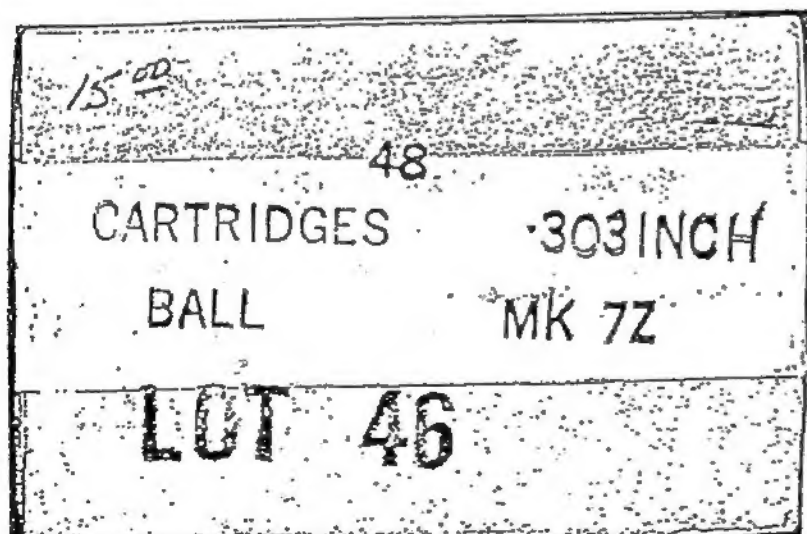
(A)

64 round box of L.M.K.5Z blank-DA 52 LVZ



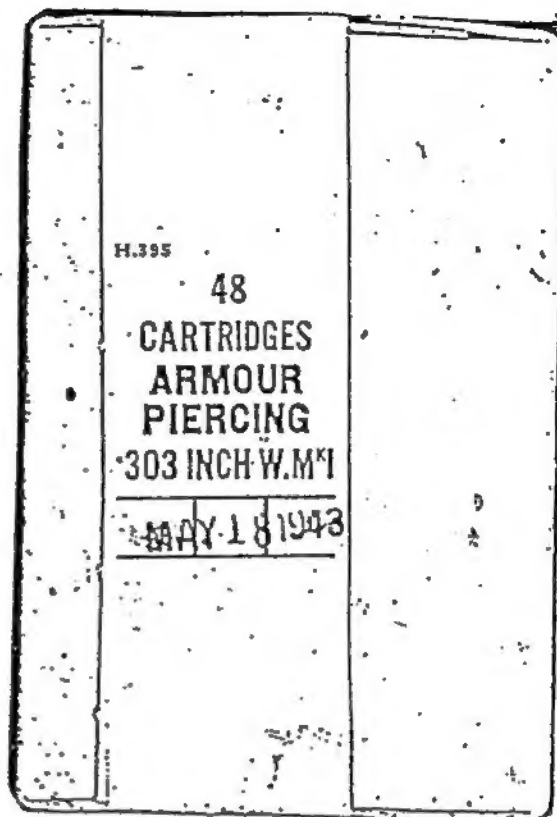
(C)

D.A 55 L.CDN.MK.I



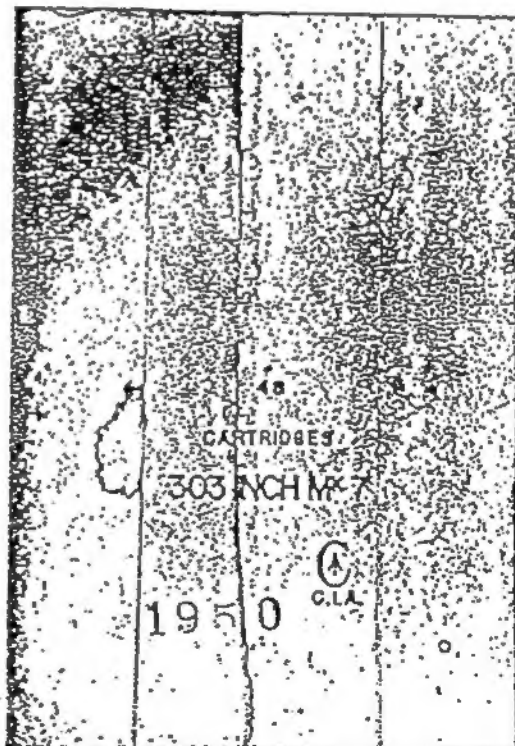
(D)

DAC 50 7Z ball.



(B)

DAC 1943 WI



(E)

D.A.C. 45 7 - loaded in 1950

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